



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/DK98/00080</p> <p>(22) International Filing Date: 2 March 1998 (02.03.98)</p> <p>(30) Priority Data: 0236/97 5 March 1997 (05.03.97) DK</p> <p>(71) Applicant (for all designated States except US): COLOPLAST A/S [DK/DK]; Holtedam 1, DK-3050 Humlebaek (DK).</p> <p>(72) Inventor; and</p> <p>(75) Inventor/Applicant (for US only): OLSEN, Eskil, Hoejland [DK/DK]; Hvidoerevej 51, DK-2930 Klampenborg (DK).</p> <p>(74) Common Representative: COLOPLAST A/S; Patent Dept., Att.: Kim Nilausen, Holtedam 1, DK-3050 Humlebaek (DK).</p>		<p>(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, ES, FI, FI (Utility model), GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>	
<p>(54) Title: A SEALING DEVICE FOR AN OSTOMY COLLECTING APPLIANCE</p> <p>(57) Abstract</p> <p>A sealing device for an ostomy collecting appliance in the form of a cover which is provided with means adapted for providing an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance. A simple and secure closure of a used ostomy collection bag is provided enabling the user to close the used bag to avoid spilling the content thereof and to prevent unpleasant odours from escaping from the used bag.</p>			

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**TITLE**

A SEALING DEVICE FOR AN OSTOMY COLLECTING APPLIANCE

**FIELD OF THE INVENTION**

The present invention relates to a sealing device especially apt for post-use sealing of ostomy appliances such as collection bags for collecting secretions from the body in connection with e.g. a colostomy, an ileostomy, or a urostomy.

**BACKGROUND OF THE INVENTION**

In connection with surgery for a number of diseases in the gastro-intestinal tract a consequence is, in many cases, that the patient is left with an abdominal stoma such as a colostomy, an ileostomy or a urostomy. In such cases or in connection with a fistula the patient will have to rely on an appliance to collect the bodily material emerging from such opening.

Ostomy appliances are well known. Such appliances may be two-piece or one-piece appliances. In both types of appliances, a body side member is attached to the wearer's abdomen, and optionally a receiving member or bag is attached to the body side ostomy member for receiving exudates from the ostomy in case of a two-piece appliance.

Ostomates having an ostomy often encounters problems when removing the used ostomy bag. If a one-piece or two-piece appliance is used having an adhesive flange for securing the ostomy collecting bag member to either the skin of the abdomen of the ostomate or to a body-side ostomy member, the ostomate may simply fold up the bag along a diameter of the adhesive wafer thus forming a closure and seal of the bag. However, such procedure is not possible using two-piece appliances having a stiff coupling ring.

At home, the ostomate will normally have routines and the necessary facilities to manage the used bags in a safe and hygienic manner without liberation of obnoxious smell.

However, the discharge of faeces or urine into the bag cannot be controlled and thus, an ostomate may often have to change the collecting bag e.g. in other people's homes or in public rest rooms when leading an active social life. In such cases, the facilities and routines used at home may not be available or usable 5 and the ostomate may have to bring the used bag with him until a proper management of the bag is practicable. This may be very difficult as indicated above and such problems may hamper the ostomate's chances of participating in a near-to-normal life considerably.

US patent No. 4,561,858 discloses an ostomy appliance with integral breathable 10 gasket for providing a seal between the ostomy appliance and skin. The gasket may be protected before use by a thin sheet of a peelable material such as release paper or film applied over and adhered to the gasket. Before use, the peelable material is gripped and torn off and discarded prior to application of the appliance. US patent No. 4,561,858 discloses a pre-use protection of an adhesive 15 surface of an ostomy appliance using a gasket adhered to the adhesive surface of the appliance by the tack thereof. US patent No. 4,561,858 is silent with respect to post-use sealing of the inlet opening of an ostomy appliance and does furthermore not disclose ostomy appliances having a coupling ring. After having served its purpose and having been removed from the patient's skin, an appliance 20 has an at least partly deteriorated adhesive surface not being suitable for providing a hermetic seal by applying a release liner as disclosed in US patent No. 4,561,858 and thus, there is an uncovered need for an option to cope with used ostomy collection bags in places away from the ostomate's home or usual whereabouts.

## 25 BRIEF DESCRIPTION OF THE INVENTION

The present invention offers a simple and effective solution to the needs stated above which solution may also make life more simple at home reducing the need for special facilities and routines.

The present invention relates to a sealing device especially apt for sealing ostomy appliances.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The invention is disclosed more in detail with reference to the drawings in which

5 Fig. 1 shows a first embodiment of a sealing device of the present invention seen from the distal side,

Fig. 2 shows a sectional view the embodiment of Fig. 1 along a diameter A-A,

Fig. 3 shows the sealing device of Fig. 1 in mesh with a coupling ring of an ostomy device,

10 Fig. 4 shows a second embodiment of a sealing device of the present invention seen from the distal side,

Fig. 5 shows a sectional view the embodiment of Fig. 4 along a diameter B-B,

Fig. 6 shows the sealing device of Fig. 5 invention in mesh with a coupling ring of an ostomy device,

15 Fig. 7 shows a third embodiment of a sealing device of the present invention seen from the distal side,

Fig. 8 shows a sectional view the embodiment of Fig. 7 along a diameter C-C,

Fig. 9 shows the sealing device of Fig. 7 in mesh with a coupling ring of an ostomy device,

20 Fig. 10 shows a sectional view along a diameter of a fourth embodiment of a sealing device of the present invention, and

Fig. 11 shows the sealing device of Fig. 10 in mesh with a coupling ring of an ostomy device,

#### **DETAILED DESCRIPTION OF THE INVENTION**

25 The invention relates to a sealing device for sealing an ostomy collecting appliance in the form of a cover which is provided with means adapted for providing a post-use essentially hermetic sealing of the inlet opening of the ostomy collecting appliance said means being adapted for engaging with a coupling ring for coupling the ostomy collecting appliance to a body-side ostomy member for forming

an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance and /or said means comprising an adhesive sealing around the inlet opening.

The sealing device of the invention may e.g. be in the form of a cap, lid or cover 5 or plug, stopper or bung.

In a preferred embodiment, the invention relates to a sealing device for an ostomy appliance which sealing device is provided with means adapted for engaging with a coupling ring known per se for coupling the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic 10 sealing of the inlet opening of the ostomy collecting appliance. Thus, a simple and secure closure and sealing of a used ostomy collection bag is provided enabling the user to seal the used bag for avoiding spilling the content thereof and for preventing unpleasant odours from escaping from the used bag. This embodiment enables the ostomate to have a less complicated life at home and improves 15 his chances of leading an active social life.

Reference is made to Figs. 1-3 of the drawings showing an embodiment of a sealing device of the invention in the form of a cap 1 having a flange 2 for engaging with a coupling ring 4 of an ostomy collecting appliance 5 such as a collection bag for coupling the ostomy collecting appliance to a body-side ostomy member 20 for forming an essentially hermetic sealing of the inlet opening 6 of the ostomy collecting appliance. Preferably, the flange 2 has a projection 3 for securing the cap to ostomy appliance in order to provide a hermetic seal.

In Figs. 4-6 another embodiment of a cap is shown having a differently shaped flange 2 and projection 7. The ostomy appliance 5 of Fig. 6 has a differently 25 shaped coupling ring 8.

Various embodiments of coupling rings for coupling an ostomy collecting appliance to a body-side ostomy member exist and it is a routine matter for the

skilled in the art to adapt the sealing device of the present invention to be able to engage with a specific coupling ring.

Such a sealing device may be prepared by injection moulding from a thermoplastic material suitable for injection moulding and being able to withstand the action 5 of the aggressive discharges from an ostomy and to prevent liberation of obnoxious smell. Suitable materials for preparing a sealing device according to the invention are e.g. polyolefins such as polyethylene or polypropylene or chlorinated polyolefins such as chlorinated polyethylene or polyvinyl chloride or polyvinylidene chloride or a copolymer of polyethylene and vinylacetate.

10 In another embodiment of the sealing device according to the invention, the sealing device is in the form of a stopper, plug or bung adapted to be able to engage with an existing coupling ring for coupling an ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance. Various embodiments of coupling 15 rings for coupling an ostomy collecting appliance to a body-side ostomy member exist and it is a routine matter for the skilled in the art to adapt the sealing device of the present invention to be able to engage with a specific coupling ring.

Reference is made to Figs. 7 - 9 showing a third embodiment of a sealing device according to the invention in the form of a cap 9 in the form of a stopper adapted 20 to be able to engage with an existing coupling ring for coupling an ostomy collecting appliance to a body-side ostomy member having a part 10 protruding in proximal direction for engaging with a coupling ring 11 of an ostomy collecting appliance 5 such as a collection bag for coupling the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the 25 inlet opening of the ostomy collecting appliance. Preferably, the protruding part 10 has a projection 12 for securing the cap to ostomy appliance in order to provide a hermetic seal.

Such a sealing device may be formed by heat forming of a suitable foamed material or by foaming of a suitable foamable material in a corresponding mould. In the alternative, it may be formed by finishing a foamed blank, e.g. using a lathe.

Suitable foamed or foamable materials are e.g. foamed polyethylene or foamed polystyrene or a polyurethane foam.

A sealing device according to the invention may be manufactured using the same materials and the same equipment which is currently used in manufacturing other parts for ostomy appliances. Only the moulds and maybe some process parameters have to be changed and it is thus not necessary to introduce new 10 processes or raw materials into the production.

In a further preferred embodiment, the invention relates to a sealing device for an ostomy appliance which sealing device is provided with at least one surface which is provided with an adhesive for forming an essentially hermetic seal around the inlet opening of the ostomy collecting appliance. Such embodiment 15 may be used for sealing used ostomy collection bags which are or which are not provided with means for mechanical coupling of the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance. Thus, a simple and secure closure of a used ostomy collection bag having the advantages stated above is provided which may be used both with ostomy collection bags having a stiff 20 coupling ring and ostomy collection bags having an adhesive flange for securing the ostomy collecting bag member to either the skin of the abdomen of the ostomate or to a body-side ostomy member.

Reference is made to Figs. 10 -11 showing a fourth embodiment of a sealing device according to the invention in the form of a sheet 13 having an area along the periphery thereof covered with an adhesive layer 14. The adhesive layer has a sufficient dimension to adhere around the inlet opening 6 of an ostomy collecting appliance. The sealing device may e.g. adhere to a coupling ring 15 of an

ostomy collecting appliance 5 such as a collection bag for coupling the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance or to the appliance itself around the opening. The adhesive layer 13 may be protected 5 with a release liner 16 to be removed before placing the sealing device over the opening of the ostomy collection device. The sealing device of this embodiment of the invention is also suitable for sealing ostomy collection appliances having no coupling ring but having an adhesive member for sealing the same to the abdomen of the ostomate or to a body side plate member.

10 For extra security a part 17 of a sealing device of the invention stretching outside the inlet opening 6 of the ostomy collection device or of the coupling ring 4,8,11,15 may be covered with an adhesive.

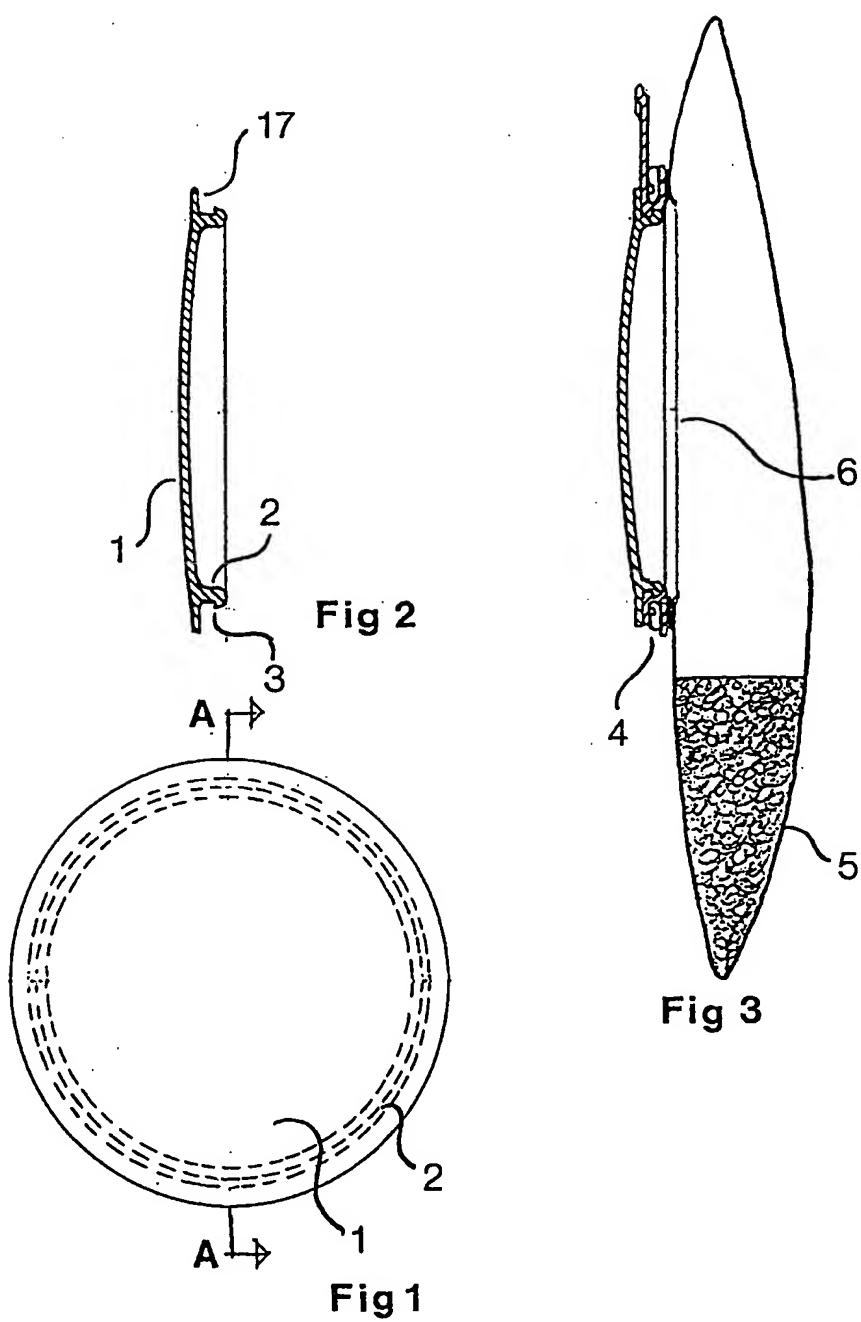
A sealing device according to the invention may e.g. be formed from a sheet of a suitable plastics material being impervious to liquid and of obnoxious smell. The 15 sheet may e.g. be formed from polyethylene, polypropylene, polyvinyl chloride or polyvinylidene chloride or from a copolymer of polyethylene and vinylacetate. The sheet is provided with at least one surface which is provided with an adhesive for forming a seal around the inlet opening of the ostomy collecting appliance. Such adhesive may be any suitable adhesive which ensures an 20 essentially hermetic seal around the inlet opening of the ostomy collecting appliance. The choice of adhesive will be routine work for the skilled in the art considering the actual materials and the action of the exudates from an ostomy. The adhesive may cover one whole surface of the sealing device or alternatively be applied in any sort of pattern, e.g. in the form of an area along the periphery of 25 the device. The adhesive may comprise hydrocolloids which will reduce the risk of a rapid deterioration of the adhesive and thus, the risk of formation of leaks.

The sealing device may be presented in the form of pieces having a suitable diameter punched from a sheet or alternatively in the form of rectangles or squares.

**CLAIMS**

1. A sealing device for an ostomy collecting appliance in the form of a cover which is provided with means adapted for providing a post-use essentially hermetic sealing of the inlet opening of the ostomy collecting appliance said means being adapted for engaging with a coupling ring for coupling the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance and /or said means comprising an adhesive sealing around the inlet opening.
2. A sealing device for as claimed in claim 1, characterised in that it is provided with means adapted for engaging with a coupling ring for coupling the ostomy collecting appliance to a body-side ostomy member for forming an essentially hermetic sealing of the inlet opening of the ostomy collecting appliance said means being in the form a cap, lid or cover or plug, stopper or bung.
3. A sealing device as claimed in claim 1 or 2, characterised in that at least one surface is provided with an adhesive for forming an essentially hermetic seal around the inlet opening of the ostomy collecting appliance.

1/4



2/4

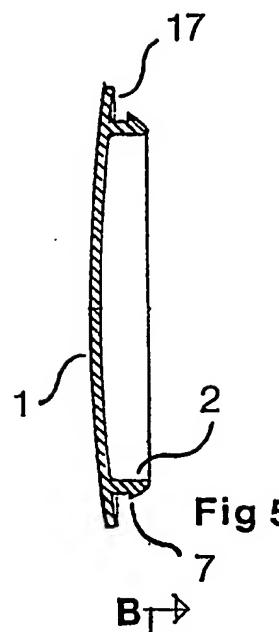


Fig 5

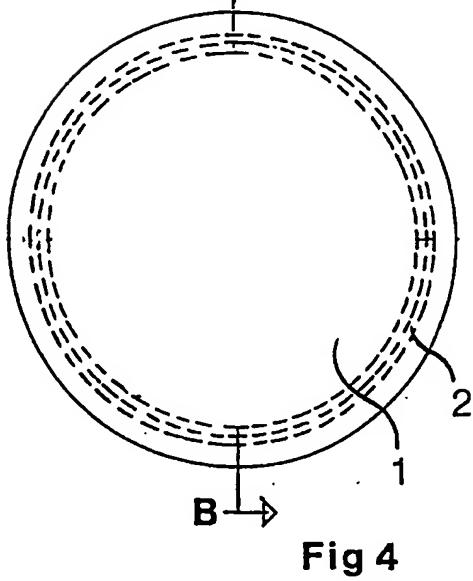


Fig 4

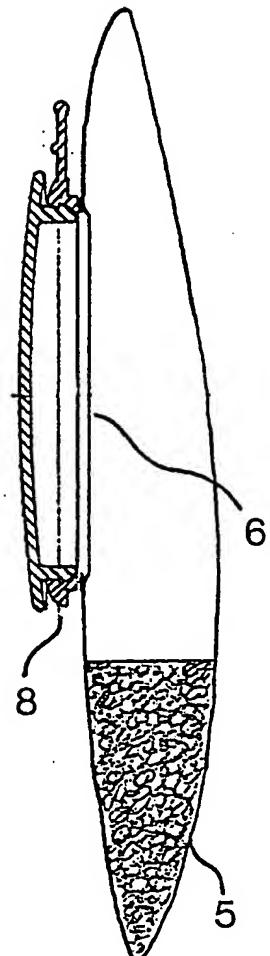
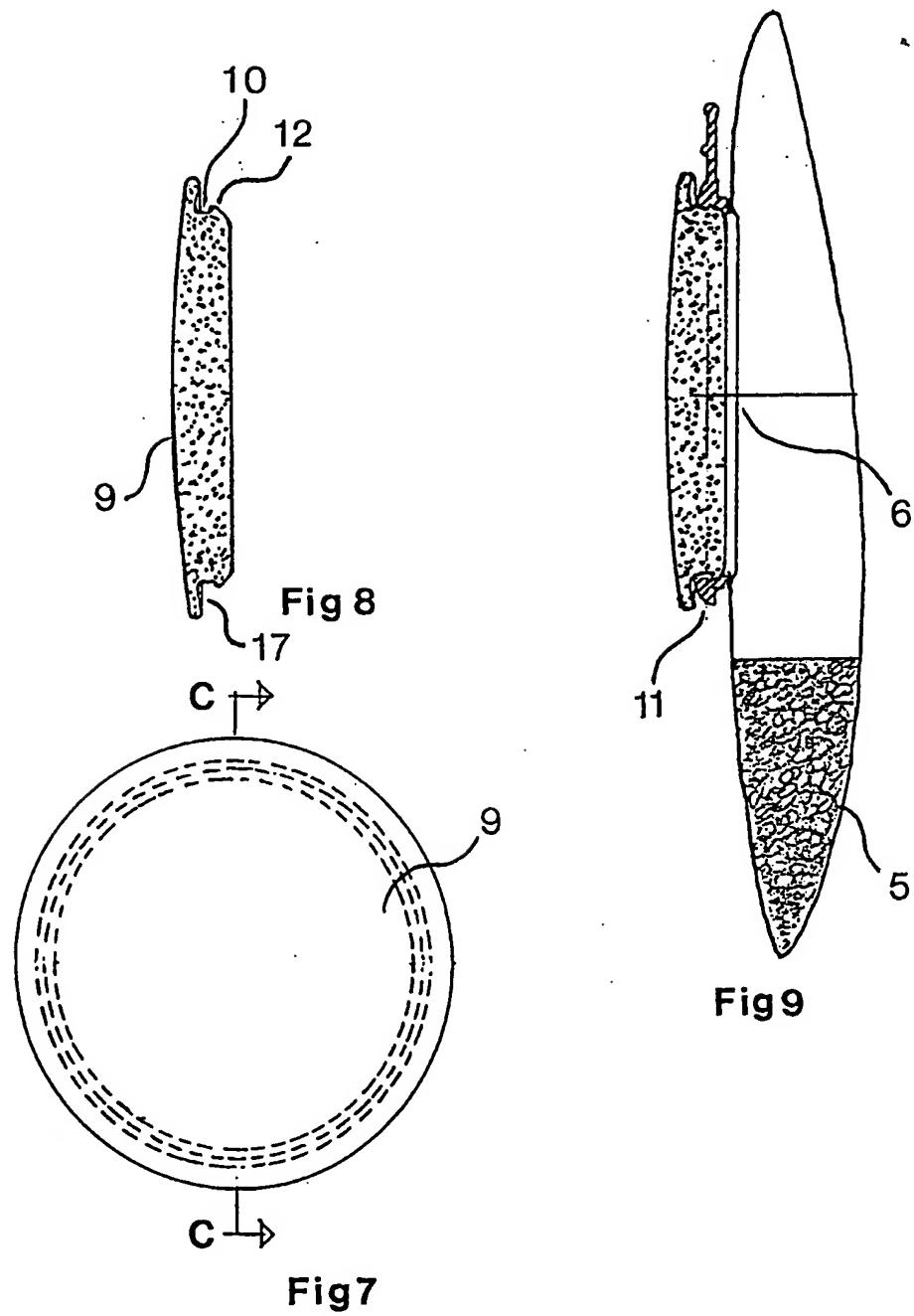


Fig 6

3/4



4/4

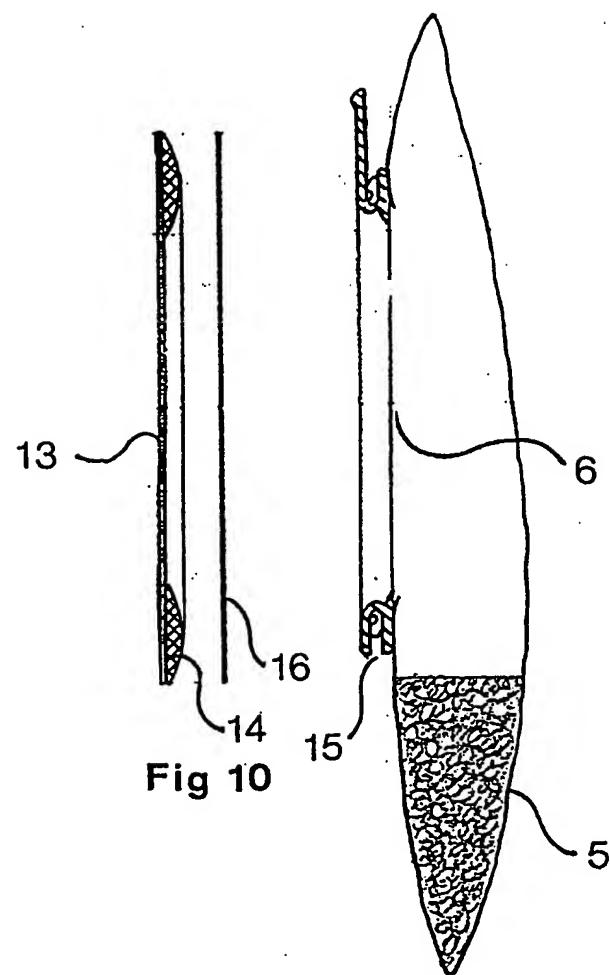


Fig 11

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/DK 98/00080

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A61F 5/445

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 2347008 A1 (SØRENSEN, CHRISTIAN), 10 April 1975 (10.04.75), figures 1-4 --	1-3
A	FR 2507080 A1 (SOCIETE DE MATERIELS ANNEXES DE DIALYSSE SMAD), 10 December 1982 (10.12.82), figures 1-2 --	1-3
A	US 3570490 A (LEON BERGER), 16 March 1971 (16.03.71), figures 3-4 --	1-3
A	US 4561858 A (D. ALLEN, JR. ET AL.), 31 December 1985 (31.12.85), figures 1-3 -- -----	1-3

 Further documents are listed in the continuation of Box C. See patent family annex.

## \* Special categories of cited documents

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## Date of the actual completion of the international search

28 July 1998

## Date of mailing of the international search report

05-08-1998

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

30/06/98

International application No.  
PCT/DK 98/00080

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
DE 2347008 A1	10/04/75	NONE		
FR 2507080 A1	10/12/82	NONE		
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